

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Christina Banta Docket Number: US010388
Serial Number: 09/876,782 Examiner: Dilek B. Cobanoglu
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Title: Method and computer readable medium for merging studies

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Appeal Brief

This Appeal Brief follows a final Office action mailed from the U.S. Patent and Trademark Office on February 6, 2007 and Applicant's Notice of Appeal submitted on May 30, 2007.

Applicant believes that a fee in the amount of \$500.00 is due under 37 C.F.R. §41.20(b)(2).

1. Real party in interest

Koninklijke Philips Electronics N.V. is the real party in interest in this case.

2. Related appeals and interferences

No prior or pending appeals, interferences, or judicial proceedings are known to Appellant, Appellant's legal representative, or Assignee which may directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal in the above-referenced case.

3. Status of claims

The Office action of May 16, 2007 rejected claims 1-4, 6-15, 7-24, and 27-28 under 35 U.S.C. §102(b) in view of Seliger et al. (U.S. patent number 5,546,580, issued August 13, 1996), and rejected claims 5, 16, 25, and 26 under 35 U.S.C. §103(a) in view of the combination of Seliger et al. (U.S. patent number 5,546,580, issued August 13, 1996) and Applicants admitted prior art, paragraph [0002] of the specification as filed, hereinafter "paragraph [0002]". Claims 1-28 are pending and are here appealed.

4. Status of amendments

No amendments to the claims were made in Appellant's Response of April 19, 2007.

5. Summary of claimed subject matter

Claim 1 is directed to a computer-implemented study merging method. The method includes the steps of: merging a patient's first medical study with a logically related or similar second medical study, to create a composite study (specification as filed ¶ 11); and reconciling study identifiers of the first and second medical studies (Ibid., ¶ 8), the merging including an automatic adding of medical information (Ibid., ¶ 13), according to a protocol attribute (Ibid., ¶ 12), of the first or second medical study into the other medical study in the creating of the composite study (Ibid., ¶ 7).

Claim 9 is directed to a computer-implemented study merging method. The method includes the steps of: merging a patient's first medical study with a logically related or similar second medical study to create a merged study (Ibid., ¶ 9), such that medically context-specific

information stored in at least one of the first and second medical studies is merged based upon a protocol of at least one of the first and second studies (Ibid., ¶ 10), the protocol being indicated by an attribute of at least one of the first and second studies (Ibid., ¶ 10); saving respective identifiers of the first and second studies (Ibid., ¶ 43); deleting a distinct database identity for at least one of the first and second studies (Ibid., ¶ 8); and assigning a unique study identifier to the merged study (Ibid., ¶ 26).

Claim 12 is directed to a computer readable medium in which is embodied a program having instructions executable by a computer to perform acts. The acts include: merging a patient's first medical study with a logically related or similar second medical study, to create a composite study (Ibid., ¶ 12); and reconciling study identifiers of the first and second medical studies (Ibid., ¶ 8), such that the merging includes an automatic adding of medical information (Ibid., ¶ 9), according to a protocol attribute (Ibid., ¶ 12), of the first or second medical study into the other medical study in the creating of the composite study (Ibid., ¶ 12).

Claim 22 is directed to a computer readable medium in which is embodied a program having instructions executable by a computer to perform acts. The acts include: merging a patient's first medical study with a logically related or similar second medical study to create a merged study (Ibid., ¶ 12), such that medically context-specific information stored in at least one of the first and second medical studies is merged based upon a protocol of at least one of the first and second studies (Ibid., ¶ 12), the protocol being indicated by an attribute of at least one of the first and second studies (Ibid., ¶ 12), saving respective identifiers of the first and second studies (Ibid., ¶ 40); deleting a distinct database identity for at least one of the first and second studies (Ibid., ¶ 8); and assigning a unique study identifier to the merged study (Ibid., ¶ 26).

Claim 25 is directed to a computer-implemented medical study merging method. The method includes the steps of: identifying, in accordance with a lexicon of Digital Imaging and Communication in Medicine (DICOM), a patient's related first and second medical studies to be merged (Ibid., ¶ 19); and merging the first medical study with the second medical study, according to a protocol attribute (Ibid., ¶ 10), such that a resultant composite study has a study identifier different from at least one of the first and second medical studies (Ibid., ¶ 13), such that, in accordance with the lexicon, the merging includes an automatic adding of a series of the second medical study to the composite study (Ibid., ¶ 13), the series of the second medical study having a series identifier the same as a pre-merge corresponding series identifier (Ibid., ¶ 13),

with the series of the second medical study including at least an artifact with an artifact identifier the same as a pre-merge corresponding artifact identifier (*Ibid.*, ¶ 13), such that the composite study includes series and corresponding series identifiers from both the pre-merged first and second medical studies (*Ibid.*, ¶ 13).

6. Grounds of rejection to be reviewed on appeal

6.1 Rejection of claims 1-4, 6-15, 17-24 and 27-28 under 35 U.S.C. § 102(b)

Independent claims 1, 9, 12, and 22 and dependent claims 2-3, 6-8, 10-11, 13-14, 17-21, 23-24 and 27-28 stand rejected under 35 U.S.C. § 102(b) in view of Seliger et al. (U.S. Patent No. 5,546,580, issued August 13, 1996).

6.2 Rejection of claims 5, 16, 25 and 26 under 35 U.S.C. § 103(a)

Independent claim 25 and dependent claims 5, 16, and 26 stand rejected under 35 U.S.C. § 103(a) in view of Seliger et al. (U.S. Patent No. 5,546,580, issued August 13, 1996) in combination with paragraph [0002].

7. Argument

7.1 Introduction: history of prosecution

Claims 1-26 were in the application as filed. Claims 1-4, 7-8, 10-11, and 25-26 were rejected under 35 U.S.C. § 102(b) in view of Seliger et al. (U.S. Patent No. 5,546,580) in an Office action mailed January 18, 2006. Claim 5 was rejected under 35 U.S.C. § 103(a) in view of Seliger et al. (U.S. Patent No. 5,546,580) in combination with paragraph [0002] in this Office action. Claim 6 was rejected under 35 U.S.C. § 103(a) in view of Seliger et al. (U.S. Patent No. 5,546,580) in combination with Cooke Jr. et al. (U.S. Patent No. 6,574,629). Claims 12-24 were rejected under 35 U.S.C. § 112 ¶2, and claims 9, 12 and 22 were rejected under 35 U.S.C. § 101 in this Office action. Applicants amended claims 1, 3-9, and 12-26, added claims 27-28 and traversed rejection of claims 1-26 in an Amendment and Response submitted June 15, 2006.

Rejection of claim 6 under 35 U.S.C. § 103(a) in view of Seliger et al. (U.S. Patent No. 5,546,580) in combination with Cooke Jr. et al. (U.S. Patent No. 6,574,629) was withdrawn in an Office action mailed September 13, 2006. Rejections of claims 12-24 under 35 U.S.C. § 112 ¶2 and of claims 9, 12, and 22 under 35 U.S.C. § 101 were also withdrawn in this Office action.

Rejection of claims 1-4, 7-8, 10-11, and 25 under 35 U.S.C. § 102(b) in view of Seliger et al. was maintained in the Office action mailed September 13, 2006. New rejection of claims 6, 9, 12-15, 17-24, and 26-28 under 35 U.S.C. § 102(b) in view of Seliger et al. (U.S. Patent No. 5,546,580) was imposed. Rejection of claim 5 was maintained under 35 U.S.C. § 103(a) in view of the combination of Seliger et al. (U.S. Patent No. 5,546,580) and paragraph [0002] in this Office action. New rejection of claims 16 and 25 under 35 U.S.C. § 103(a) in view of the combination of Seliger et al. (U.S. Patent No. 5,546,580) and paragraph [0002] was imposed in this Office action. Applicants amended claims 1, 12, 22, and 25 and traversed rejection of claims 1-28 in an Amendment and Response submitted December 5, 2006.

Rejection of claim 26 under 35 U.S.C. § 102(b) in view of Seliger et al. (U.S. Patent No. 5,546,580) was withdrawn in a final Office action mailed March 12, 2006. New rejection of claim 26 under 35 U.S.C. § 103(a) in view of the combination of Seliger et al. (U.S. Patent No. 5,546,580) and paragraph [0002] was imposed in this Office action.

Rejections of claims 1-4, 6-15, 17-24, and 27-28 under 35 U.S.C. § 102(b) in view of Seliger et al. (U.S. Patent No. 5,546,580), and of claims 5, 16, and 25 under 35 U.S.C. § 103(a) in view of the combination of Seliger et al. (U.S. Patent No. 5,546,580) and paragraph [0002], were maintained in this Office action. Applicants traversed rejections of the claims in a Response submitted April 24, 2007.

Rejection of claims 1-4, 6-15, 17-24, and 27-28 under 35 U.S.C. § 102(b) in view of Seliger et al. (U.S. Patent No. 5,546,580), and rejection of claims 5, 16, 25, and 26 under 35 U.S.C. § 103(a) in view of the combination of Seliger et al. (U.S. Patent No. 5,546,580) and paragraph [0002] were maintained in an Advisory action mailed May 16, 2007. Applicants submitted a Notice of Appeal on May 30, 2007.

7.2 35 U.S.C. §102(b)

7.2.1 Characterization of cited prior art

The Office action mailed March 12, 2006 and the Advisory action mailed May 16, 2007, reject claims 1-4, 6-15, 7-24, and 27-28 under 35 U.S.C. §102(b) in view of Seliger et al. (U.S. patent number 5,546,580, issued August 13, 1996). Seliger is characterized below in Section 7.2.3.

The subject matter of the present independent claims is summarized in Section 5 above.

7.2.2 Claims 1-4, 6-15, 7-24, and 27-28

Applicant's factual analysis below shows that Seliger et al. is not the same as the subject matter of the present claims.

7.2.3 Seliger et al. (U.S. patent number 5,546,580, issued August 13, 1996)

Seliger shows a method for coordinating updates to a medical database, the method used to account for concurrent charting of a data value from different workstations (Seliger et al., Abstract).

The method in Seliger shows: entering a new data value for a record in a medical database at a first workstation; entering a new data value for the same record in a medical database at a second workstation; storing the first and second data value in the record in the medical database; and recording a correction history for that record (Ibid., column 3, lines 6-22).

Each database event in Seliger contains a sequence number and event information for updating the record (Ibid., column 11, lines 56-62). The sequence number represents the order in which the database server received each event information (Ibid., column 11, lines 62-65). The database synchronizes the locally generated change along with other changes to the record, so the method permits concurrent entries to be processed in the order in which the database server receives them (Ibid., column 12, lines 1-5).

In Seliger, processing of each database event involves updating the appropriate parameter values in the record and determining if the update requires the display screen to be updated (Ibid., column 12, lines 7-10). Processing of the database events also involves recording a correction history for each parameter that is changed (Ibid., column 12, lines 15-17). The new parameter value is added to the correction history, and the new value becomes the current value in the record (Ibid., column 12, lines 17-19). Seliger shows the database events processed in sequential order with the same parameter potentially being changed more than once with the final parameter reflecting the current value (Ibid., column 12, lines 24-31). Factual analysis above shows that Seliger merely updates the parameters to the value of the event with the latest sequential number.

7.2.4 The present claims are not the same as the cited art

According to criteria established in the Manual of Patent Examining Procedure, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Manual of Patent Examining Procedure* § 2131 (8th ed., Rev. 4, Oct. 2005), citing *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q. 2d 1051, 1053 (Fed. Cir. 1987). Thus, the standard for rejection under 35 U.S.C. § 102 is identity.

In contrast to Seliger, the present claims are directed to a computer-implemented method for merging studies to create a composite study. The term "study" refers to the collected information for an examination (See the specification as filed paragraph [0002]). These terms most closely relate to an overall combination of "Performed Procedure Steps", according to the DICOM standard, with each DICOM Performed Procedure Step including the collected information (Ibid., paragraph [0002]). The term "procedure" refers to a combination of collected information, as in the DICOM Performed Procedure Step, with a study having potentially multiple procedures (Ibid., paragraph [0002]).

Factual analysis of Seliger above shows that Seliger's method is coordinating simultaneous updates of a data value within a single medical record in contrast to the present claims. A single data value within a medical record is not the same as a study that has collected information, as is the subject matter of claims 1, 9, 12, and 22. In fact, the Office actions admit that "...Seliger et al. is more directed to updating records such as patient's flowsheets using sequence numbers and event information." See Office action mailed January 18, 2006 p. 8 ¶17 and Office action mailed September 27, 2006 p. 7 ¶9.

Nowhere does Seliger show a computer-implemented study merging method or computer program product in a computer readable medium involving merging a patient's first medical study with a logically related or similar second medical study, to create a composite study, as is inter alia the subject matter of claims 1, 9, 12, and 22.

Seliger also fails to show reconciling study identifiers of the first and second medical studies, in which the merging includes an automatic adding of medical information, according to a protocol attribute, of the first or second medical study into the other medical study in the creating of the composite study, as is the subject matter inter alia of claims 1, 9, 12, and 22.

Further, Seliger fails to show assigning a unique study identifier to the merged study, as is the subject matter inter alia of claims 9 and 22. Seliger shows a user ID that does not change

associated with the data value, viz., there is no merged study. Seliger's one medical record maintains this same ID, and the user ID given to a data value remains associated with that data value.

The Office action mailed March 12, 2007 on p. 7 and the Advisory Action mailed May 16, 2007 on p. 2 allege that Seliger shows "... automatically updating a flowsheet by an instrument or two instruments updating the same patient flowsheet at the same time because the Examiner considers that updating the same patient flowsheet means that the first and second studies (or values) are merged (added together) according to a protocol attribute since they are related (or similar) parameters." Applicants respectfully disagree.

As shown below, Seliger fails to show any merging of a first study and second study. In contrast to merging to which claims 1, 9, 12, and 22 are directed, Seliger shows updating and replacing. Seliger states:

It may appear that concurrent updating of the same parameter in a patient flowsheet would be undesirable from a system operation viewpoint. However, this is not the case when concurrent updating is used with the correction history. In the medical information context, neither new entry has priority. For example, if one user enters a heart rate of 80 for a given patient and another user concurrently enters a heart rate of 90 for the same patient, the entries are clearly different. However, the system is not expected to determine which data entry is correct or to assign either data entry a priority. In effect, the system doesn't care which data entry is received first. All that is required is to record the data entries in the order in which they were received and to reflect all updates in the correction history. There is no requirement to abort either transaction or to inform one of the users that a conflict has occurred. *Ibid.*, column 6, line 60 to column 7, line 8 [emphases added].

The above section clearly shows that Seliger's method records data entries based on chronological order. The correction history lists all entries for a specific data value and the medical record shows only the most recently entered value. In Seliger's method, the data values are independent events, i.e., the earlier entered value does not effect or alter the later entered value. Factual analysis of Seliger's method shows that the later entered data value simply replaces the earlier value in the record. Thus, a data value, rather than being merged into a composite, is replaced.

One of ordinary skill in the art of computer programming at the time the present application was filed, would have known that replacing and updating are not the same as merging.

The Websters online dictionary defines “update” as “supply with recent information”.

See Section 9, Evidence Appendix showing the Websters definition of “update”. The Merriam Webster dictionary defines “replace” as “to put something new in the place of”. See Section 9, Evidence Appendix showing the Merriam Webster definition of “replace”.

In contrast, the Merriam Webster dictionary defines “merge” as “to cause to combine, unite or coalesce”. See Section 9, Evidence Appendix showing the Merriam Webster definition of “merge”.

Factual analysis above demonstrates that Seliger does not show merging, i.e., combining, uniting or coalescing information, to which claims 1, 9, 12, and 22 are directed. In contrast, Seliger shows updating information in a medical record by replacing the existing entry with the most recently received entry, which is not the same as the subject matter of the presently pending claims.

For these reasons, Seliger is not the same as the subject matter of claims 1, 9, 12, and 22, and therefore these claims are not anticipated by Seliger. Claims 2-4, 6-8, 10-11, 13-15, 17-21, 23-24, and 27-28 depend directly or indirectly from claims 1, 9, 12, or 22 and incorporate all of the subject matter of these claims and contain additional subject matter. As claims 1, 9, 12, and 22 are not anticipated by Seliger, therefore claims 2-4, 6-8, 10-11, 13-15, 17-21, 23-24, and 27-28 also are not anticipated by this reference.

Applicants respectfully assert that claims 1-4, 6-15, 7-24, and 27-28 are novel in view of Seliger, and request that rejection of these claims under 35 U.S.C. §102(b) be withdrawn.

7.3 35 U.S.C. §103(a)

7.3.1 Characterization of cited prior art

The Office action mailed March 12, 2006 and the Advisory Action mailed May 16, 2007, reject claims 5, 16, 25, and 26 under 35 U.S.C. §103(a) in view of Seliger et al. (U.S. patent number 5,546,580, issued August 13, 1996) in combination with paragraph [0002] of the Specification as filed. Seliger is characterized above in Section 7.2.3. Paragraph [0002] is characterized below in Section 7.3.2.

The subject matter of the present independent claims is summarized in Section 5 above.

7.3.2 Characterization of prior art references

As a preliminary matter, the Supreme Court in Graham v. John Deere, 383 U.S. 1, provided an analytical construct to be used when determining whether claims are obvious under 335 U.S.C §103(a) in view of prior art. One aspect of this analytical construct includes first characterizing each of the prior art references, as background for legal analysis of the combination of the cited references which is here found in Section 7.3.3.

Paragraph [0002]

For the convenience of the reader, paragraph [0002] of the Specification as filed is included below:

[0002] Typically, a physician will order or prescribe for a patient certain examinations, such as an X-ray or ultrasound examination. When such an examination is being performed, a user will typically generate a “medical” study which will contain the examination results. The study may be stored according to a DICOM (Digital Imaging and Communication in Medicine) standard, a format for Agilent Technology’s medical information management system called EnConcert, known as DSR-TIFF, or as another storage format. DICOM is a prevailing standard for medical imaging management, with EnConcert conforming thereto. According to DICOM lexicon, when an examination is to be performed, a “Requested Procedure” is generated, where collected information will be collated. Likewise, according to DICOM, the term “study” corresponds to a collection of information associated with the Requested Procedure, i.e., the collection of information associated with the examination being performed. Likewise, the term “study” in EnConcert, similarly relates to DICOM’s information collection that is associated with the Requested Procedure. In embodiments of applicants’ invention, the term “study” corresponds to the “collected,” rather than “collecting of,” information for an examination, and most closely relates to an overall combination of “Performed Procedure Steps,” according to the DICOM standard, with each DICOM Performed Procedure Step including the collected information. In the embodiments of applicants’ invention, the term “procedure” will be used to correspond to a similar combination of collected information, as in the DICOM Performed Procedure Step, with a study having potentially multiple procedures. Lastly, in the embodiments of applicants’ invention, the term “protocol” corresponds to an identification of a type of examination, e.g., a stress test, including either standard or individualized instructions as to what data is to be, or was, collected for such an examination, or even how the collected data is to be collated or calculated.

Factual analysis of paragraph [0002] demonstrates that this paragraph shows that patients undergo medical examinations and when such an examination is being performed, a user generates a medical study which contains examination results. This paragraph shows that the

prevailing format for these studies is a DICOM (Digital Imaging and Communication in Medicine) standard.

Nowhere does paragraph [0002] teach or suggest a computer-implemented study merging method or computer program product in a computer readable medium involving merging a patient's first medical study with a logically related or similar second medical study, to create a composite study, to which claims 1 and 12 are directed.

Nowhere does paragraph [0002] teach or suggest reconciling study identifiers of the first and second medical studies, in which the merging includes an automatic adding of medical information, according to a protocol attribute, of the first or second medical study into the other medical study in the creating of the composite study, to which claims 1 and 12 are directed.

Nowhere does paragraph [0002] teach or suggest merging the first medical study with the second medical study, according to a protocol attribute, such that a resultant composite study has a study identifier different from at least one of the first and second medical studies, in which, the merging includes an automatic adding of a series of the second medical study to the composite study, the series of the second medical study having a series identifier the same as a pre-merge corresponding series identifier, with the series of the second medical study including at least an artifact with an artifact identifier the same as a pre-merge corresponding artifact identifier, such that the composite study includes series and corresponding series identifiers from both the pre-merged first and second medical studies, to which claim 25 is directed.

Seliger et al. (U.S. patent number 5,546,580, issued August 13, 1996)

Seliger is characterized above in Section 7.2.3.

As shown above, Seliger shows updating and replacing a single record with a current parameter value not merging first and second studies to create a composite study to which claims 1, 12, and 25 are directed.

Nowhere does Seliger teach or suggest a computer-implemented study merging method or computer program product in a computer readable medium involving merging a patient's first medical study with a logically related or similar second medical study, to create a composite study, to which claims 1 and 12 are directed.

Nowhere does Seliger to teach or suggest reconciling study identifiers of the first and second medical studies, in which the merging includes an automatic adding of medical

information, according to a protocol attribute, of the first or second medical study into the other medical study in the creating of the composite study, to which claims 1 and 12 are directed.

Nowhere does Seliger teach or suggest a computer-implemented medical study merging method, involving: identifying, in accordance with a lexicon of Digital Imaging and Communication in Medicine (DICOM), a patient's related first and second medical studies to be merged, to which claim 25 is directed.

Nowhere does Seliger teach or suggest merging the first medical study with the second medical study, according to a protocol attribute, such that a resultant composite study has a study identifier different from at least one of the first and second medical studies, in which, the merging includes an automatic adding of a series of the second medical study to the composite study, the series of the second medical study having a series identifier the same as a pre-merge corresponding series identifier, with the series of the second medical study including at least an artifact with an artifact identifier the same as a pre-merge corresponding artifact identifier, such that the composite study includes series and corresponding series identifiers from both the pre-merged first and second medical studies, to which claim 25 is directed.

7.3.3 Legal analysis

According to a summary of criteria in the *Manual of Patent Examining Procedure*, "[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." [emphasis added] *Manual of Patent Examining Procedure* §2142 (8th Ed. Rev.2, May 2, 2004); *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

A recent decision by the U.S. Supreme Court, *KSR International Co. v. Teleflex Inc.* 550 U.S. ____ (2007), discusses criteria for showing a motivation to combine numerous prior art references in a determination that a claimed invention is obvious. The U.S. Supreme Court in *KSR* explained that "[t]here is no necessary inconsistency between the idea underlying the TSM

[teaching, success, motivation] test and the *Graham* analysis.” *KSR International Co.* 550 U.S. ____ at p. 15. In fact, the court explains “... it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the newly claimed invention does.” *Ibid.*

Applicants respectfully traverse the above rejection, and show that the facts of the combination of references and the relevant case law indicate that the invention would not have been obvious to one of ordinary skill in the art at the time the application was filed because the underlying facts show that the criteria for a *prima facie* rejection have not been met.

Failure of the cited prior art to teach or suggest all the claim limitations

To establish a *prima facie* case for obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art. *Manual of Patent Examining Procedure*, §2143.03, p. 108 (8th Ed. Rev.2, May 2, 2004); *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974).

Claims 1, 12, and 25 are directed to merging studies. Factual analysis above demonstrates that Seliger and paragraph [0002] in combination fail to teach or suggest merging of studies. Seliger shows updating of a single record to current parameters. Nowhere does Seliger show merging of studies to which claims 1, 12, and 25 are directed.

Paragraph [0002] shows that patient examination results are stored in a study. Nowhere does paragraph [0002] show a computer implemented method of merging such studies.

The above factual analysis shows that Seliger and paragraph [0002] in combination do not teach or suggest this subject matter of claims 1, 12, and 25. Therefore a *prima facie* case for obviousness of claims 1, 12, and 25 has not been made.

Claims 5, 16, and 26 depend directly or indirectly on claims 1, 12, or 25 respectively, and incorporate all of the subject matter of these claims and contain additional subject matter.

Therefore these claims also are not obvious in view of Seliger and Paragraph [0002] in combination.

Therefore, Applicants respectfully request withdrawal of rejection of claims 5, 16, 25, and 26 under 35 U.S.C. § 103(a) in view of the combination of Seliger and paragraph [0002].

Respectfully submitted,



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8. Claims appendix

1. (Previously presented) A computer-implemented study merging method, comprising: merging a patient's first medical study with a logically related or similar second medical study, to create a composite study; and

reconciling study identifiers of the first and second medical studies,

wherein said merging includes an automatic adding of medical information, according to a protocol attribute, of the first or second medical study into the other medical study in the creating of said composite study.

2. (Original) The study merging method of claim 1, wherein the medical information is at least one of medical images, patient measurements, findings, comments, waveforms, Doppler audio, and a medical study report.

3. (Previously Presented) The study merging method of claim 2, further comprising computing patient measurement information of the first medical study, based on the patient measurements in the second medical study, upon said merging.

4. (Previously Presented) The study merging method of claim 1, wherein said adding comprises adding stage information of the second medical study to the first medical study according to a protocol attribute of the second medical study.

5. (Previously Presented) The study merging method of claim 1, wherein the first and second medical studies include unique identifiers according to a lexicon of Digital Imaging and Communication in Medicine (DICOM).

6. (Previously Presented) The study merging method of claim 1, wherein said adding comprises adding a series instance identifier, for a series of the second medical study, to the first medical study without generating a new series instance identifier in the first medical study for said series of the second medical study.

7. (Previously Presented) The study merging method of claim 1, wherein said adding comprises adding new medical information of the second medical study to the composite study based on the new medical information including a study identifier of the second medical study.

8. (Previously Presented) The study merging method of claim 1, further comprising identifying the first and second medical studies, wherein said merging is initiated from a terminal remote from a storage unit containing either of the first and second medical studies.

9. (Previously presented) A computer-implemented study merging method, comprising: merging a patient's first medical study with a logically related or similar second medical study to create a merged study, such that medically context-specific information stored in at least one of the first and second medical studies is merged based upon a protocol of at least one of the first and second studies, the protocol being indicated by an attribute of at least one of the first and second studies;

saving respective identifiers of the first and second studies;

deleting a distinct database identity for at least one of the first and second studies; and assigning a unique study identifier to the merged study.

10. (Original) The study merging method of claim 9, wherein the medically context-specific information is stage information.

11. (Original) The study merging method of claim 9, wherein the medically context-specific information is measurement information.

12. (Previously presented) A computer program product comprising a computer readable medium in which is embodied a program having instructions executable by a computer to perform acts, said acts comprising:

merging a patient's first medical study with a logically related or similar second medical study, to create a composite study; and

reconciling study identifiers of the first and second medical studies,

wherein said merging includes an automatic adding of medical information, according to a protocol attribute, of the first or second medical study into the other medical study in the creating of said composite study.

13. (Previously Presented) The computer program product of claim 12, wherein the medical information is at least one of medical images, patient measurements, findings, comments, waveforms, Doppler audio, and a medical study report.

14. (Previously Presented) The computer program product of claim 13, wherein said automatic adding comprises computing patient measurement information of the first medical study, based on the patient measurements in the second medical study, upon said merging.

15. (Previously Presented) The computer program product of claim 12, wherein said automatic adding comprises adding stage information of the second medical study to the first medical study according to a protocol attribute of the second medical study, upon said merging.

16. (Previously Presented) The computer program product of claim 12, wherein the first and second medical studies include unique identifiers according to a lexicon of Digital Imaging and Communication in Medicine (DICOM).

17. (Previously Presented) The computer program product of claim 12, wherein said automatic adding comprises adding a series instance identifier, for a series of the second medical study, to the first medical study without generating a new series instance identifier in the first medical study for said series of the second medical study.

18. (Previously Presented) The computer program product of claim 12, wherein said automatic adding comprises adding new medical information of the first or second medical studies to the composite study based on the new medical information including a study identifier of either of the first or second medical studies.

19. (Previously Presented) The computer program product of claim 18, wherein said acts

further comprise controlling the computer to notify a user when said adding of the new medical information is performed.

20. (Previously Presented) The computer program product of claim 12, further comprising controlling the computer to delete a distinct database identity of the second medical study.

21. (Previously Presented) The computer program product of claim 12, wherein said acts further comprise controlling the computer to identify the first and second medical studies, wherein said merging is initiated from a terminal remote from a storage unit containing either of the first and second medical studies.

22. (Previously presented) A computer program product comprising a computer readable medium in which is embodied a program having instructions executable by a computer to perform acts, said acts comprising:

merging a patient's first medical study with a logically related or similar second medical study to create a merged study, such that medically context-specific information stored in at least one of the first and second medical studies is merged based upon a protocol of at least one of the first and second studies, the protocol being indicated by an attribute of at least one of the first and second studies;

saving respective identifiers of the first and second studies;

deleting a distinct database identity for at least one of the first and second studies; and assigning a unique study identifier to the merged study.

23. (Previously Presented) The computer program product of claim 22, wherein the medically context-specific information is stage information.

24. (Previously Presented) The computer program product of claim 22, wherein the medically context-specific information is measurement information.

25. (Previously presented) A computer-implemented medical study merging method, comprising:

identifying, in accordance with a lexicon of Digital Imaging and Communication in Medicine (DICOM), a patient's related first and second medical studies to be merged; and

merging the first medical study with the second medical study, according to a protocol attribute, such that a resultant composite study has a study identifier different from at least one of the first and second medical studies, wherein, in accordance with said lexicon, the merging includes an automatic adding of a series of the second medical study to the composite study, the series of the second medical study having a series identifier the same as a pre-merge corresponding series identifier, with the series of the second medical study including at least an artifact with an artifact identifier the same as a pre-merge corresponding artifact identifier, such that the composite study includes series and corresponding series identifiers from both the pre-merged first and second medical studies.

26. (Previously Presented) The medical study merging method of claim 25, wherein the composite study is assigned a unique study identifier of the first medical study.

27. (Previously Presented) The study merging method of claim 1, wherein the study identifiers of the first and second medical studies are unique among studies in a database having the distinct database entity.

28. (Previously Presented) The computer readable medium of claim 12, wherein the study identifiers of the first and second medical studies are unique among studies in a database having the distinct database entity.

9. Evidence appendix

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English Non-English

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Update

Definition: Update

Update

Noun

1. News that updates your information.

Verb

1. Modernize or bring up to date; "We updated the kitchen in the old house".
2. Bring up to date; supply with recent information.
3. Bring to the latest state of technology; in computer technology.

Source: WordNet 1.7.1 Copyright © 2001 by Princeton University. All rights reserved.

Specialty Definition: Update

Domain	Definition
Computing	In job transfer and manipulation(JTM):data which is used to modify a selected work specification or proforma. Source: European Union. (references)

The action of putting into a master file changes required by current information or transactions. Source: European Union. (references)

Source: compiled by the editor from various references; see credits.

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Crosswords: Update

English words defined with "update": [real-time](#). (references)



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replace

One entry found for **replace**.

Main Entry: **re·place**

Pronunciation: ri-plAs

Function: *transitive verb*

1 : to restore to a former place or position <*replace* cards in a file>

2 : to take the place of especially as a substitute or successor

3 : to put something new in the place of <*replace* a worn carpet>

- **re·place·able** /'plA-s&-b&l/ *adjective*

- **re·pla·cer** *noun*

synonyms **REPLACE**, **DISPLACE**, **SUPPLANT**, **SUPERSEDE** mean to put out of a usual or proper place or into the place of another. **REPLACE** implies a filling of a place once occupied by something lost, destroyed, or no longer usable or adequate <*replaced* the broken window>. **DISPLACE** implies an ousting or dislodging <war had *displaced* thousands>. **SUPPLANT** implies either a dispossessing or usurping of another's place, possessions, or privileges or an uprooting of something and its replacement with something else <was abruptly *supplanted* in her affections by another>. **SUPERSEDE** implies replacing a person or thing that has become superannuated, obsolete, or otherwise inferior <the new edition *supersedes* all previous ones>.

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1. Ankle Replacement (1 image)

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merge

One entry found.

merge

Main Entry: **merge**

Pronunciation: \mĕrj\

Function: *verb*

Inflected Form(s): **merged**; **merg·ing**

Etymology: Latin *mergere*; akin to Sanskrit *majjati* he dives

Date: 1636

transitive verb

1 archaic : to plunge or engulf in something : **IMMERSE**

2 : to cause to combine, unite, or coalesce

3 : to blend gradually by stages that blur distinctions

intransitive verb

1 : to become combined into one

2 : to blend or come together without abrupt change <*merging traffic*>

synonyms see **MIX**

— **mer·gence** \mĕr-jĕn(t)s\ *noun*

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